

Release Notes: MAG v3.6.1

v3.6.1 - released January, 2015

1. New HRRR products:
 - a. precip_15: 15-hr total precipitation
 - b. helicity-1km: 0-1 km helicity
 - c. lightning: lightning flash rate
 - d. ceiling: cloud ceiling height
 - e. max_updraft_hlcy: 2-5 km hourly max updraft helicity
 - f. 10m_maxwnd: max 10-m wind speed (computed over previous hour).
 - g. sim_radar_comp: simulated composite reflectivity
 - h. best_cape_cin: computed using the most unstable parcel in the lowest 300 mb.
 - i. echotop: heights which forecasts how tall any storms will be.
2. Modified/fixed HRRR products:
 - a. Renamed sim_radar to sim_radar_1km
 - b. Rename helicity to helicity_3km: helicity at 0-3 km. Changed barbs to show storm motion instead of 10-m wind.
 - c. Modified contour intervals for 10m_wnd_sfc_gust: added higher-end values.
 - d. Modified contour intervals for 2m_dewp_10m_wnd to make it month-dependent.
 - e. Modified precip_type title from "freezing precip" to "freezing rain".
 - f. Renamed cape_cin to sfc_cape_cin, and added in a 6000 contour for sfc-based cape to cover upper bounds.
 - g. Add colorbar to 2m_temp_10m_wnd
 - h. Fix wind barbs to be knots instead of m/sec in: 500_vort_ht 700_rh_ht, 500_temp_ht, 850_temp_ht, 925_temp_wnd, 10m_wnd, 2m_temp_10m_wnd, and 10m_wnd_sfc_gust
3. Skewt fixes:
 - a. Modify processing to do one area at a time, to avoid reprocessing of areas.
 - b. Add noaa logo to images.
4. Modify hurricane processing to kick off transfer job at end of image processing.
5. Add product descriptions to MAG website:
 - a. On Model Guidance Parameter page, click on a product, then the "Open Product Description" button will appear. Click to display parameter documentation. Text window will display over the forecast hour table. Click on "Close Product Description" to dismiss.
 - b. On image display pages and image looping pages, click on "Open Product Description" to display parameter documentation. Focus will scroll to display documentation below the image or looping images. Click on "Close" to dismiss.
6. Add new area "India" to all global models (GFS, NAEFS, GEFS-SPAG, and GEFS-MNSPRD). Region covers India and Pakistan.

7. In Image and Image_anis pages, move styling to mag_styles.css and convert page organization from tables to div for non-tabular data.
8. Remove test to send dbnet alert from move_gif_files.sh
9. Update skewt job to use 10 processors instead of 20.
10. Update version to 3.6.1

WCROSS output changes:

- Addition GIF files for new India region for global models, GFS, NAEFS, and GEFS
- Additional GIF files for nine new HRRR products: precip_15, helicity-1km, lightning, ceiling, max_updraft_hlcy, 10m_maxwnd, sim_radar_comp, best_cape_cin , echotop

WCROSS resource info:

- Increase of 7.4GB per day for images in both WCROSS and RZDM image directories (GFS: 1008MB, NAEFS: 480MB, GEFS-MNSPRD:656MB , GEFS-SPAG:432MB)
- Increase of 7.4GB per day network data usage on rsync transfer jobs between WCROSS and RZDM systems

Web Tier code changes:

- XML and web page changes to allow MAG website to display new India region products for GFS, NAEFS, and GEFS
- XML and web page changes to allow MAG website to display new HRRR products
- XML and web page changes to allow display of product descriptions.

Implementation instructions:

1. Download mag.v3.6.1 from svn tag to /nwprod
https://ncosvn.ncep.noaa.gov/usvn/svn/sib-wcross-mag/tags/mag.v3.6.1_prod/
2. Notify the MAG development team when the implementation is to occur in order to coordinate updates to the web code on the rzdm concurrent with the implementation.

3. Update /nwprod/versions/mag.ver to 3.6.1
4. Add cleanup to production for uair files: /com/mag/prod/mag.yyyymmdd

WCOSS updates

File changed	Update #
gefs_mnsprd.sh	6
gefs_spag.sh	6
naefs_bc_gesprd.sh	6
nam_gfs_param.sh	6
nam_gfs_precip.sh	6
skewt.sh	3
skewt_page.sh	3
skewt_pages.sh -- removed	3
hrrr.sh	1,2
move_gif_files.sh	8
MAG_processor_hurr.pl	4
fix/MAG.xml	6,9
versions/mag.ver admin/mag/mag_cleanup.ecf	10

Web updates

File	Update #
docs/MAG_Planned_Updates.pdf	v3.6.0 updates

docs/MAG_Users_Manual.pdf	
model-guidance-model-parameter_body.php	5
Image_body.php	5,7
Imageanis_body.php	5,7
mag_functions.php	5
version.txt	10
js/mag_scripts.js	5
js/mag_scripts_json.js	5
xml/MAG.xml	1,6
css/mag_styles.css	7

Known Issues

Reprocessing of Tropical model files

A situation arises with the Tropical model processing that can result in storm model data being reprocessed, so a storm would reappear on MAG after it has been purged.

The GEMPAK DM files (in /com/nawips/prod) are retained for 10 days. The MAG status files (in /com/mag/prod/status) are purged by exmag_cleanup_prod.sh.ecf after 3 days. These status files are used by the MAG_processor.pl and MAG_processor_hurr.pl to determine which cycles/forecast hours have already been processed. Since the MAG processor script will always try to process the last two cycles that exist (it doesn't check how old they are), if the GEMPAK files are still there after the status files have been purged, it will try to reprocess the last two cycles.

The easiest solution is to update the cleanup script to keep 10 days of all status files. Or only the hurricane model type status files (hwr-f-full, hwr-f-nested, gh-m-full, and gh-m-nested), since those are the only ones that are run irregularly. Or the cleanup script could access the same table used to purge the /com/nawips/prod directory to match the cleanup of the status files to the GEMPAK files.